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Optimizing the Value of Public Health Services: Lessons from Research & Practice

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Optimizing the Value of Public Health Services: Lessons from Research & Practice

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More than

75%

**of total U.S. healthcare costs derive from
preventable conditions**

Thorpe KE, Odgen L. What accounts for the rise in health care spending?
Emory University, 2008.

Less than

30%

**of total U.S. health expenditures are devoted
to public health & prevention**

**Of the \$80 Billion in annual governmental
public health spending in the U.S.**

86%

derive from state and local sources.

More than

78%

**of local public health delivery costs
derive from labor**

Kelso Local Health Department Costs Associated with Response to a School-Based
Pertussis Outbreak MMWR 2011

U.S. communities that increased public health spending by 10% experienced an

80%

**reduction in preventable mortality rates
over the 1993-2008 period**

Mays GP, Smith SA. Evidence links increases in public health spending to declines in preventable deaths. Health Affairs. 2011

**For every \$10 of public health spending
in the average U.S. community:**

\$9

**was recouped through lower medical care spending
over 15 years (1993-2008).**

The delivery of recommended public health services declined by

50%

in the average U.S. community between 2006 and 2012.

**Private and voluntary organizations
contributed more than**

64%

**of the public health activities performed
in the average U.S. community in 2012.**

Mays GP et al. National Longitudinal Survey of Public Health Systems, 2013.

Selected Affordable Care Act spending Scheduled for 2013-14

\$40M CDC National Public Health
Improvement Initiative

\$146M CDC Community
Transformation Grants

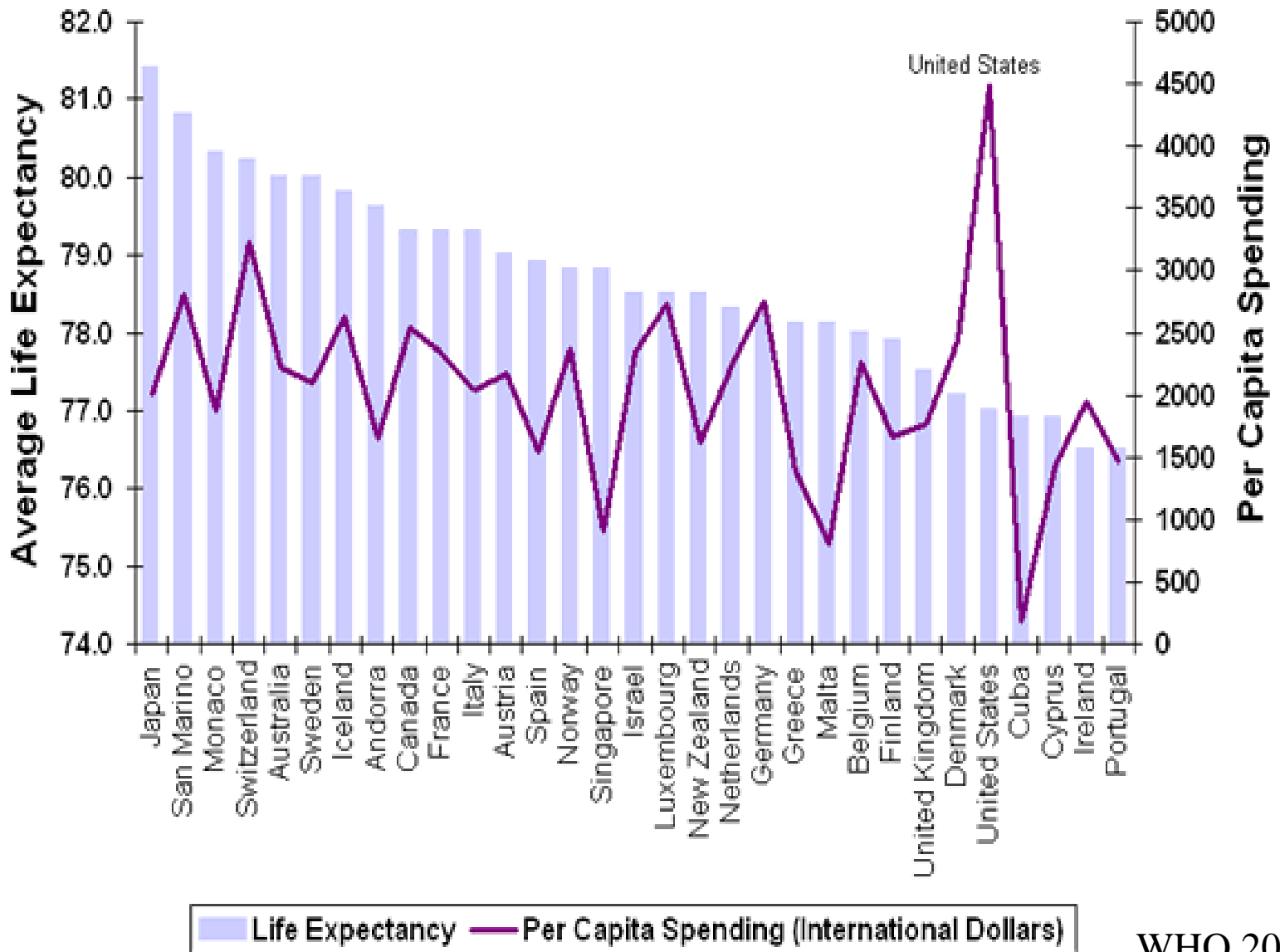
\$1B CMS Health Care
Innovation Awards

- Better care
- Lower costs
- Improved population health

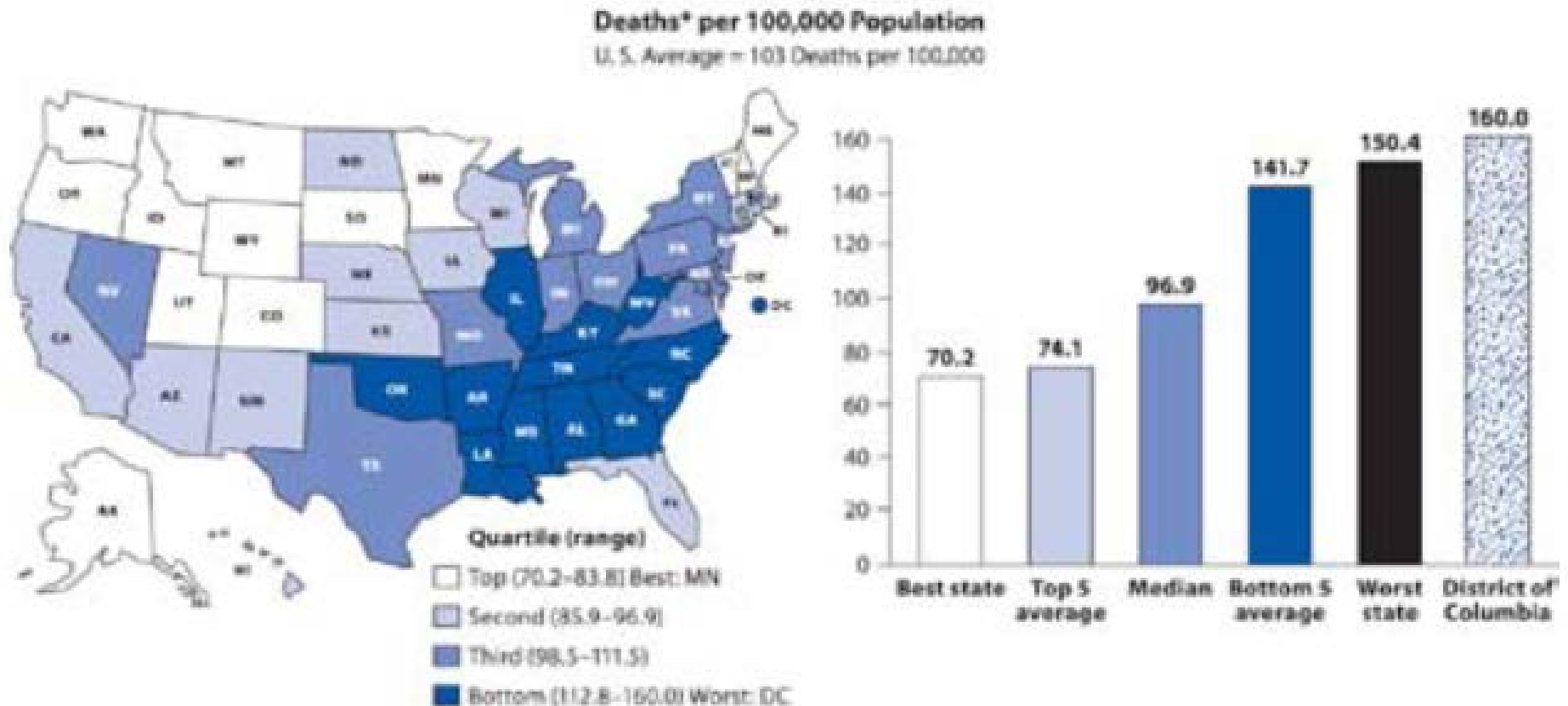
Public Health Delivery by the Numbers

- The public health workforce provides an **engine** for building a higher-performing, equitable, sustainable health system
- A focus on **catalytic functions** can improve the value of public health delivery
- **Research** is required to optimize the potential of the workforce to deliver what works in public health
- Traditional research production models are **inadequate**:
 - Research embedded in real world-practice settings
 - Rapid-cycle research on innovations in practice
 - Accelerated translation, dissemination, and implementation of findings

The health system as a public health threat



The health system as a public health threat



Resource allocation as a public health threat

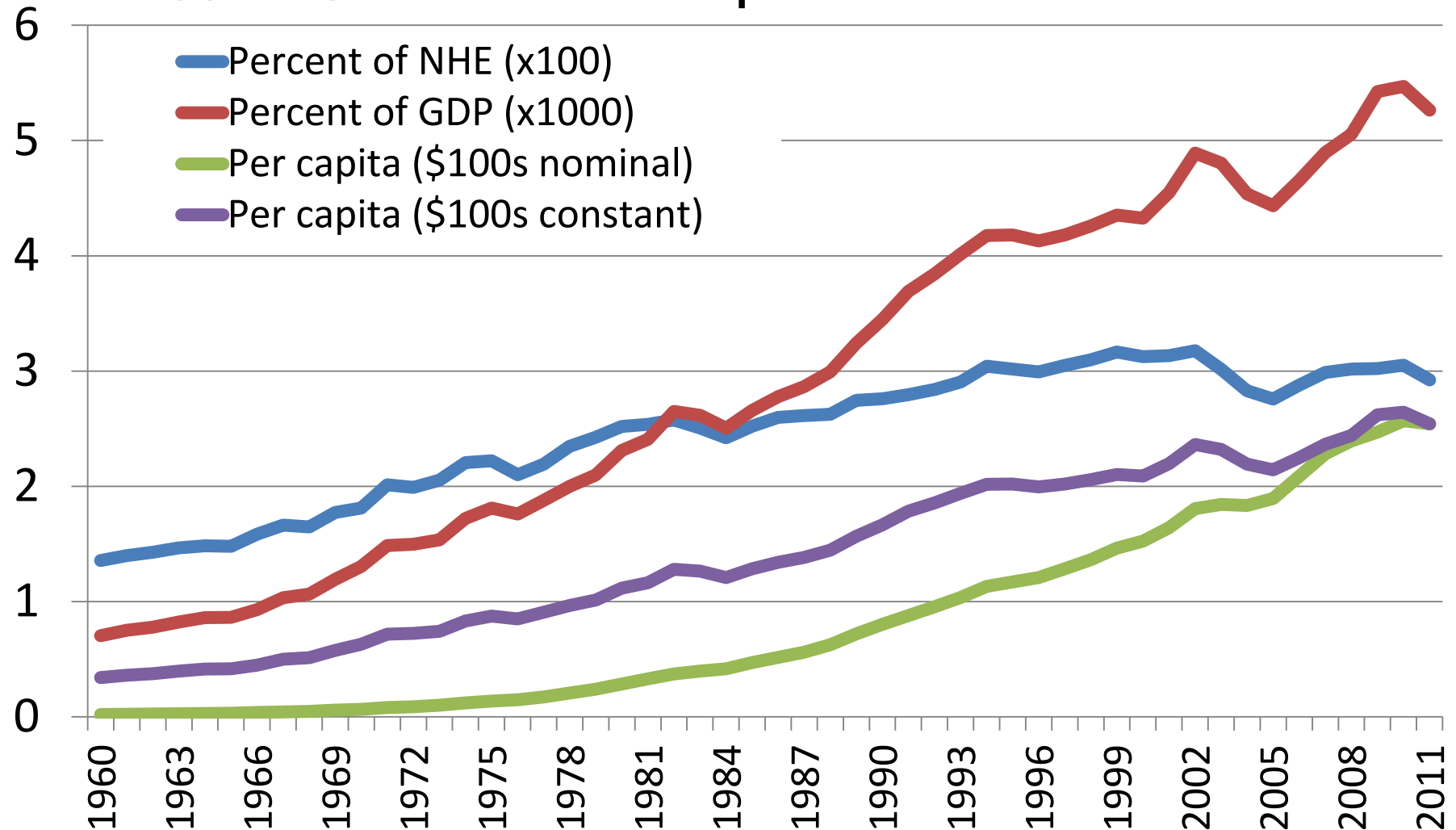
>75% of national health spending is attributable to conditions that are largely preventable

- Cardiovascular disease
- Diabetes
- Lung diseases
- Cancer
- Injuries
- Vaccine-preventable diseases and sexually transmitted infections

<5% of national health spending is allocated to public health and prevention

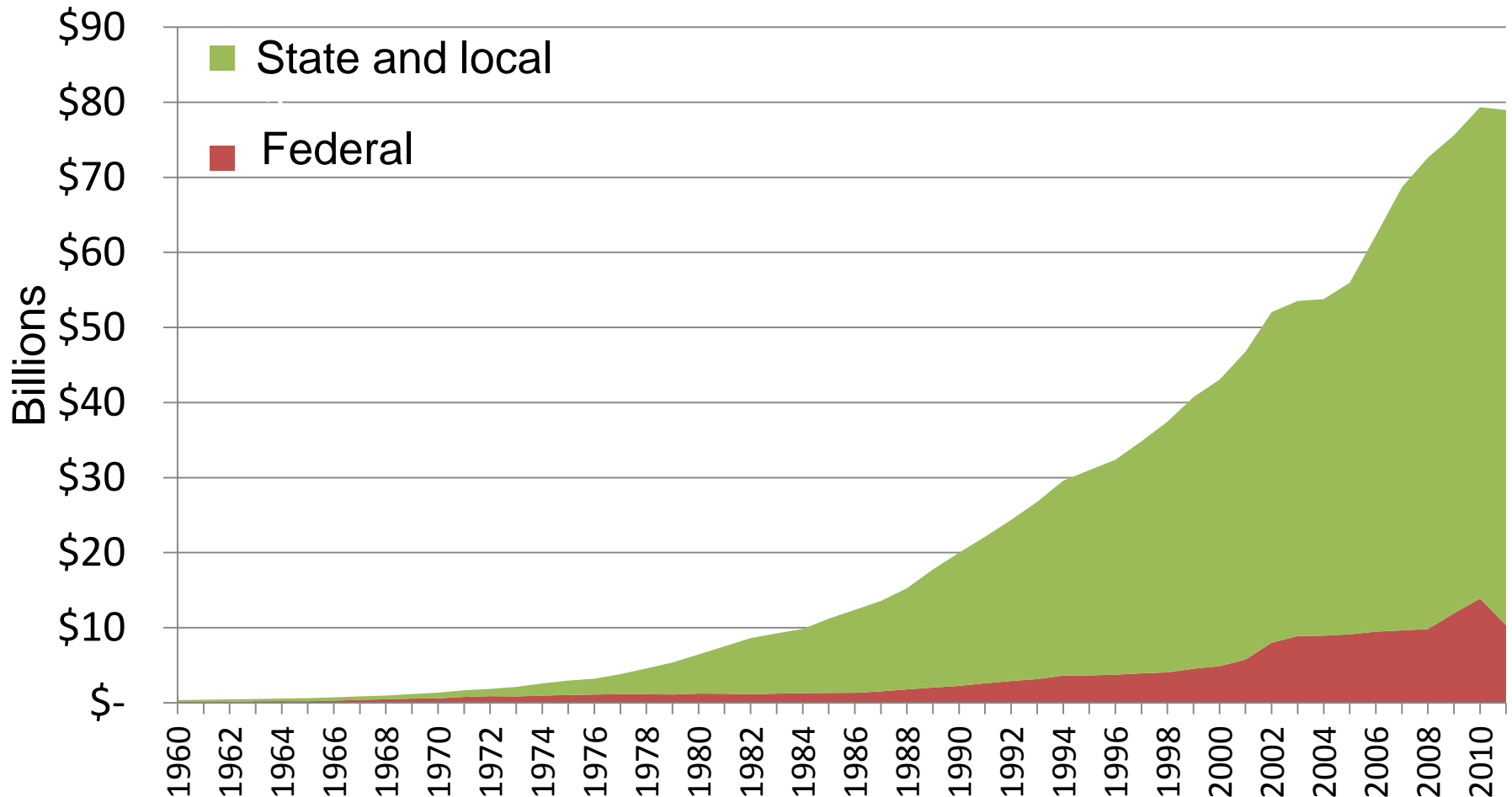
Resource allocation as a public health threat

Governmental Expenditures for Public Health Activity, USDHHS National Health Expenditure Accounts



Who pays for public health?

Governmental Expenditures for Public Health Activity, USDHHS National Health Expenditure Accounts



The mismatch between resources & responsibilities

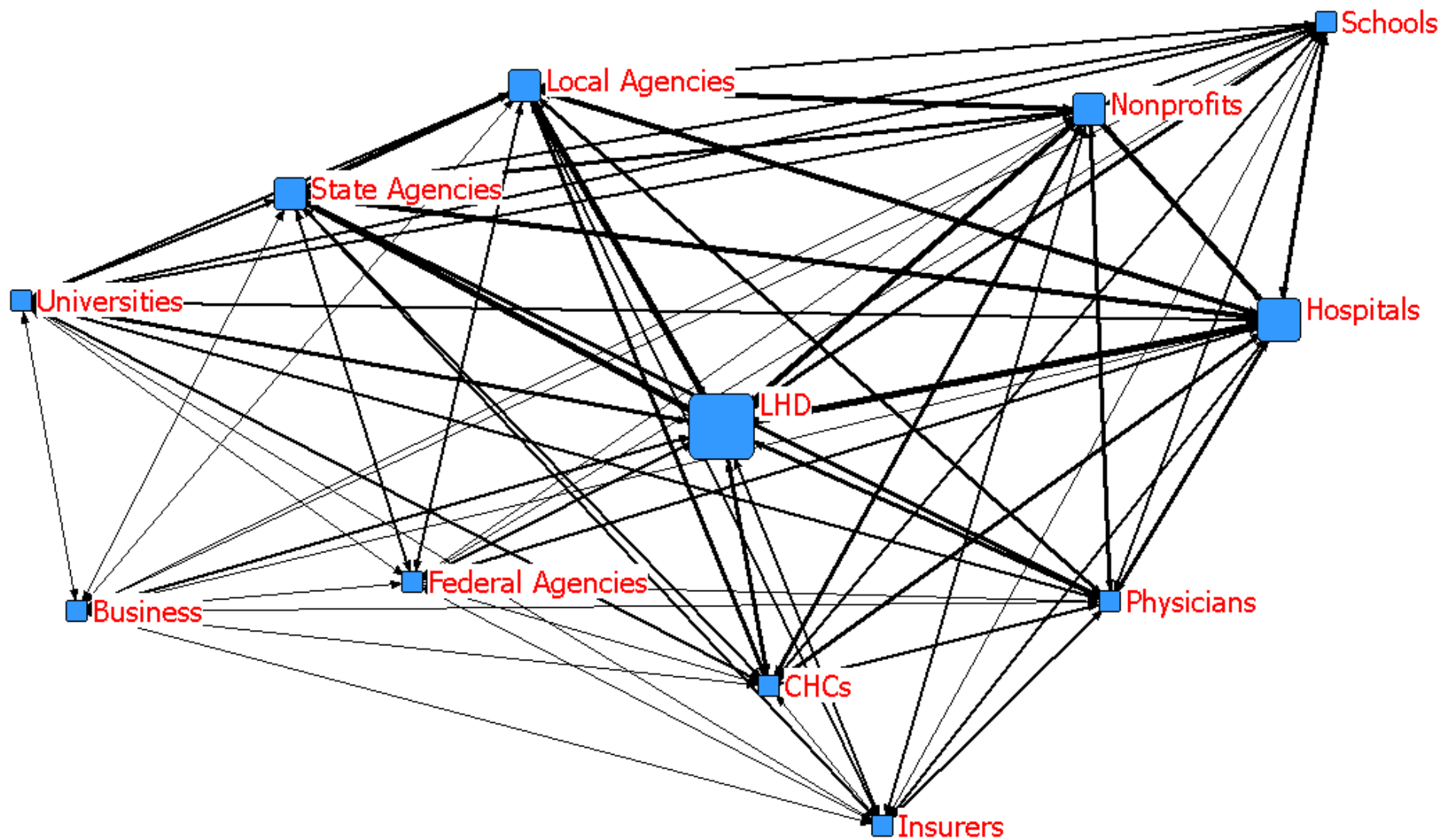
Organized programs, policies, and laws to prevent disease and injury and promote health on a population-wide basis

- Epidemiologic surveillance & investigation
- Community health assessment & planning
- Communicable disease control
- Chronic disease and injury prevention
- Health education and communication
- Environmental health monitoring and assessment
- Enforcement of health laws and regulations
- Inspection and licensing
- Inform, advise, and assist school-based, worksite-based, and community-based health programming
- ...and roles in assuring access to medical care

Challenges in public health delivery

- Lack of clear, coherent mission and expectations
- Complex, fragmented, variable delivery systems
- Resources \neq preventable disease burden
- Large inequities in resources & capacity
- Variable productivity and efficiency
- Gaps in evidence base for public health delivery
- Inability to demonstrate value/return on investment

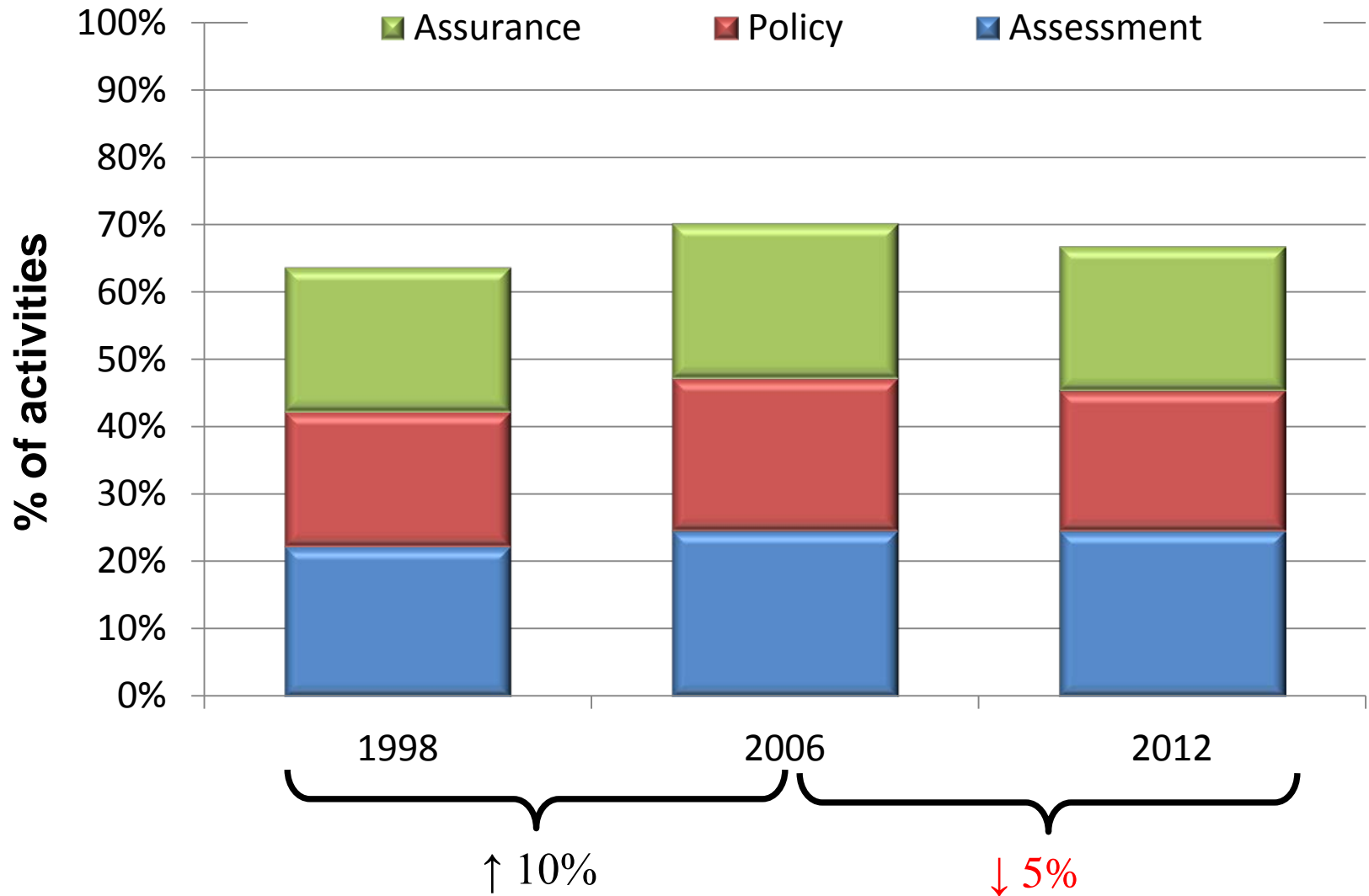
Complex public health delivery systems



National Longitudinal Survey of Public Health Systems, 2012

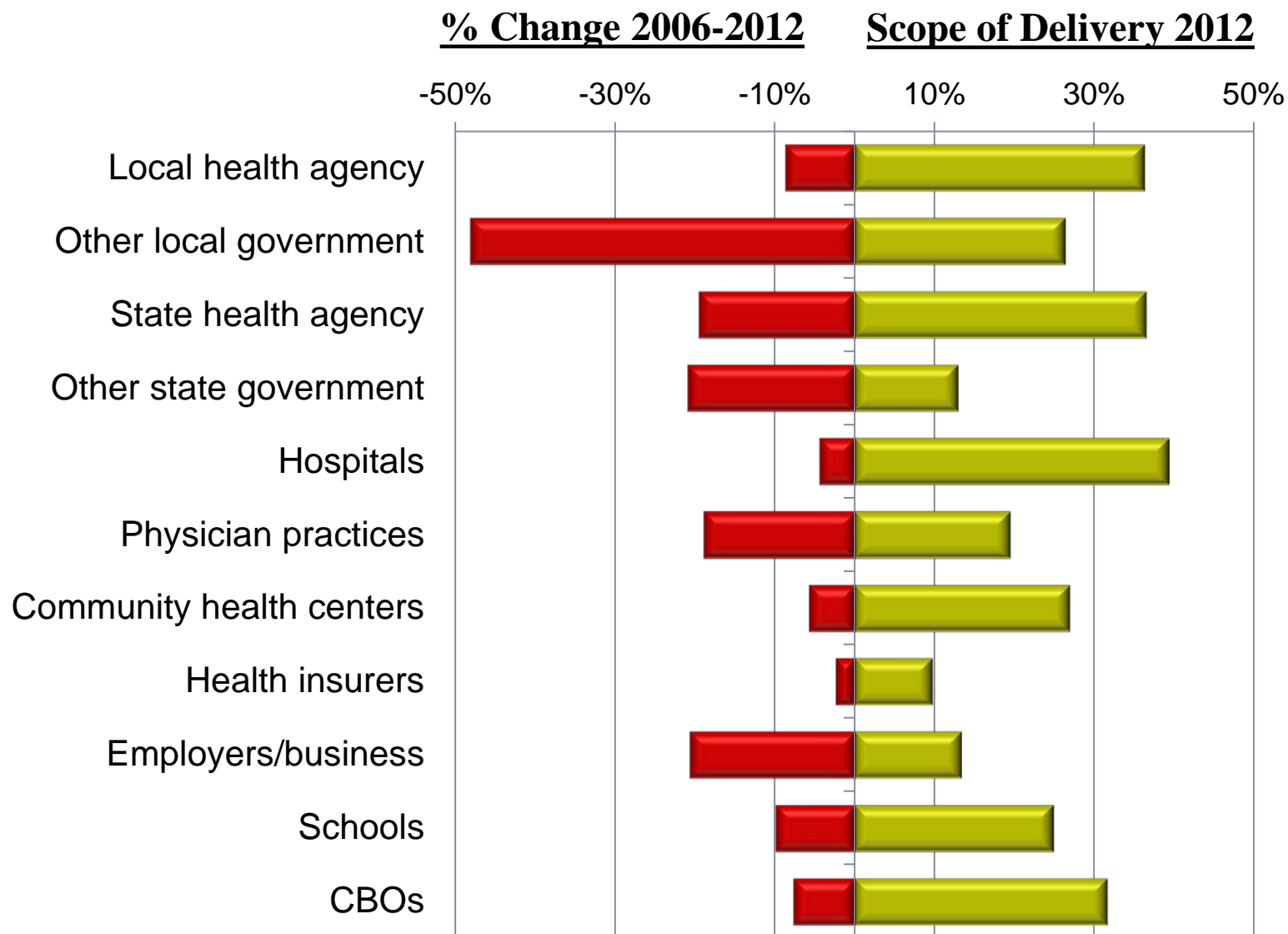
Public health system performance

Delivery of recommended public health activities

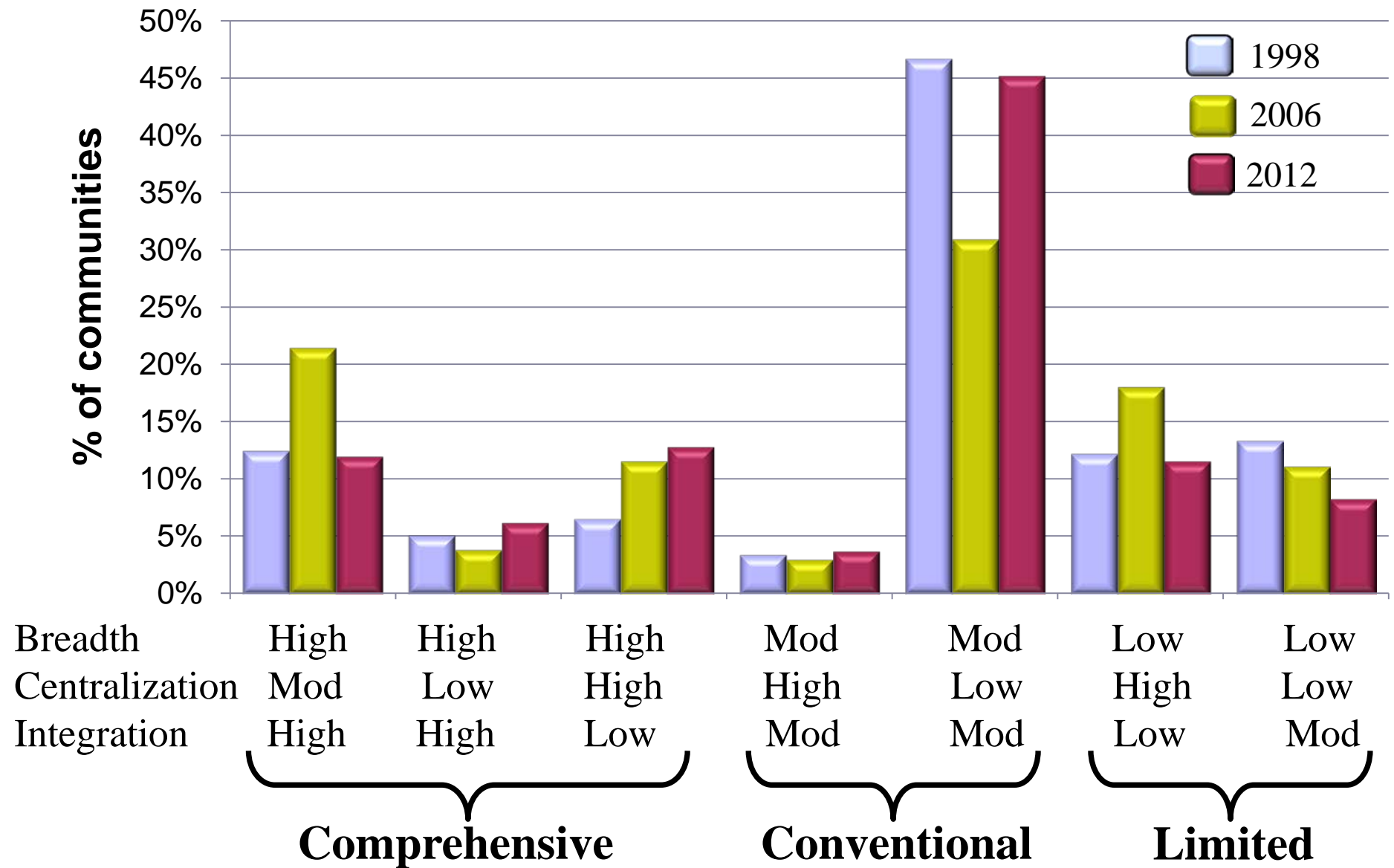


National Longitudinal Survey of Public Health Systems, 2012

Organizations engaged in local public health delivery



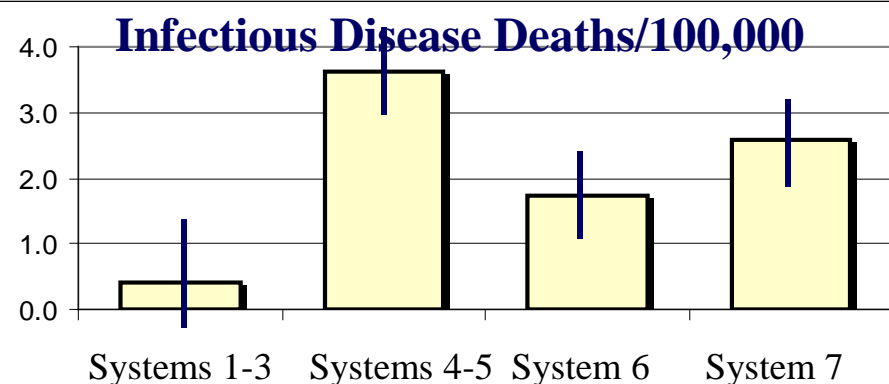
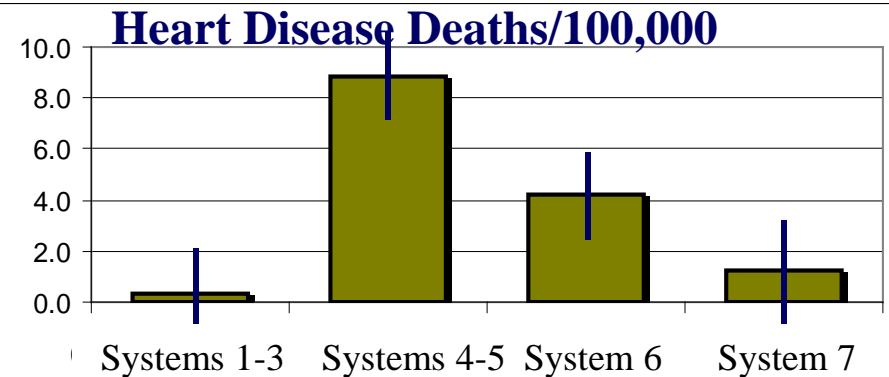
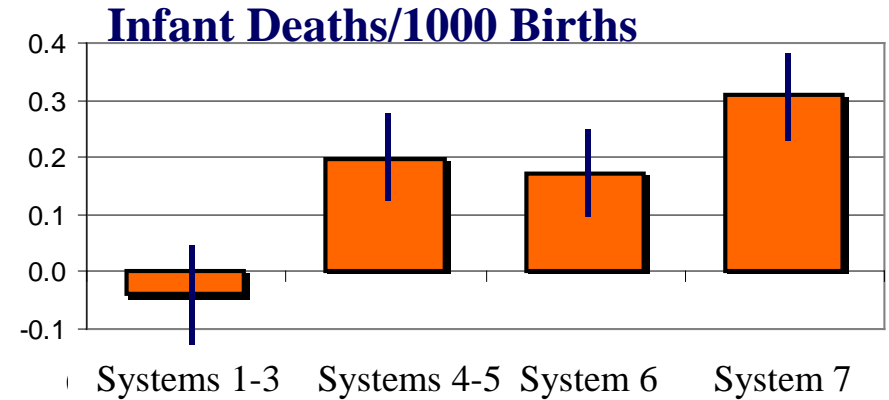
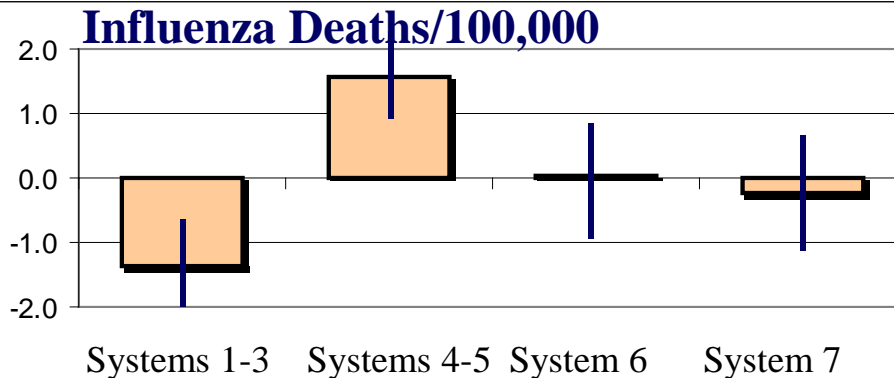
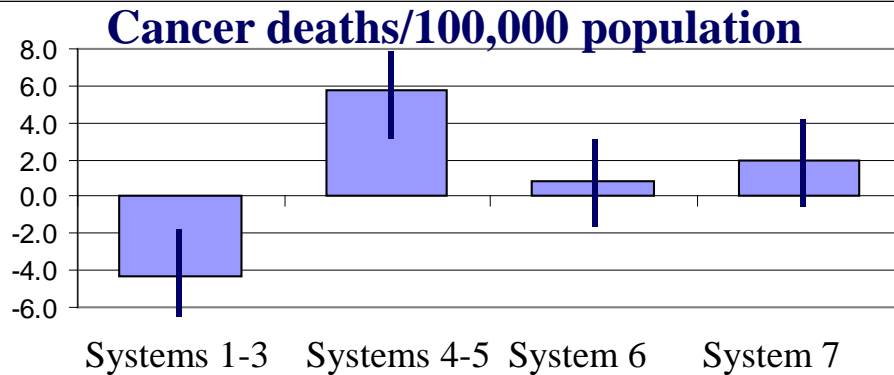
The seven types of public health delivery systems



Source: Mays et al. 2010; 2012

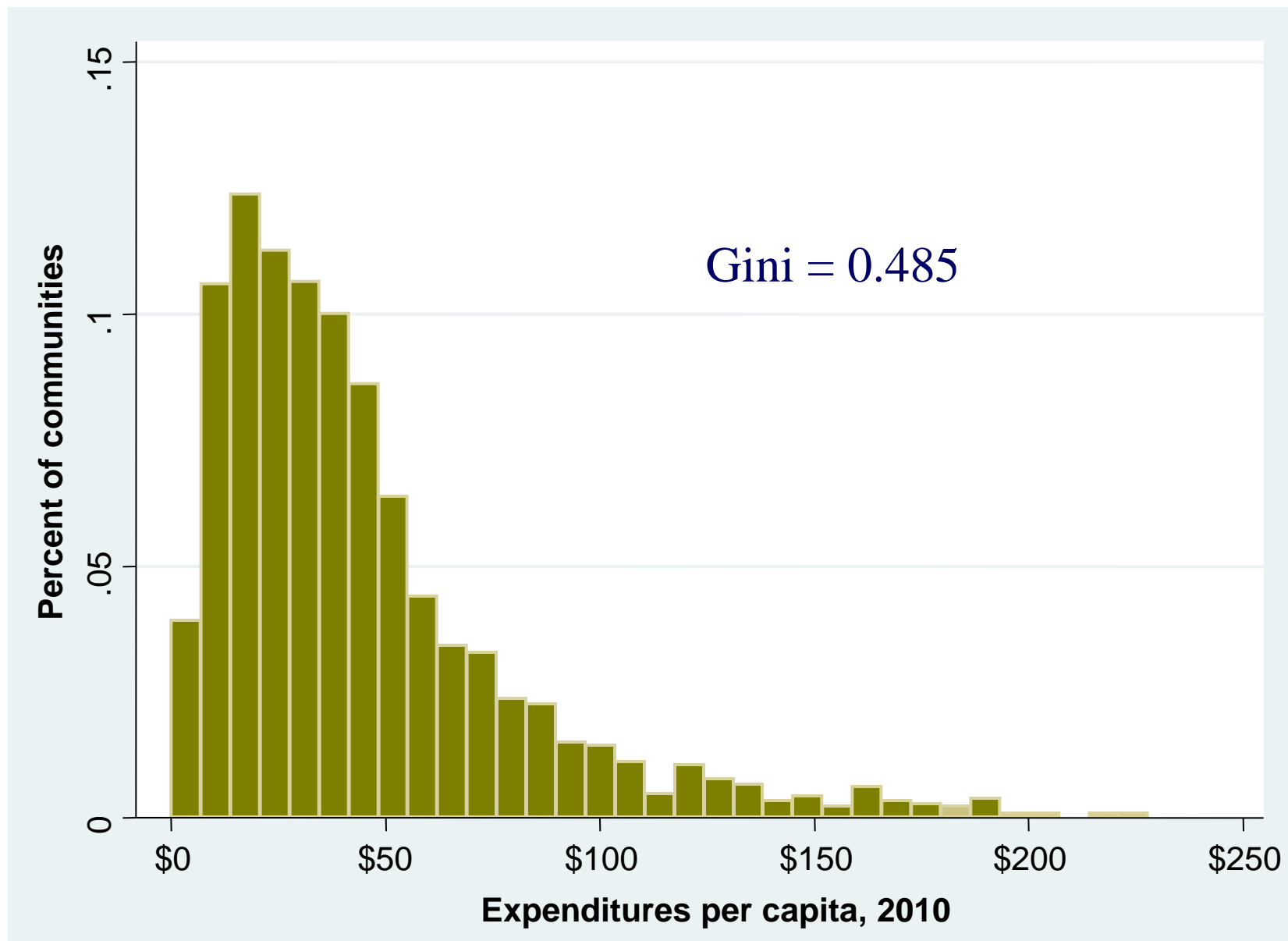
The health impact of public health delivery systems

Percent Changes in Preventable Mortality Rates by System Typology

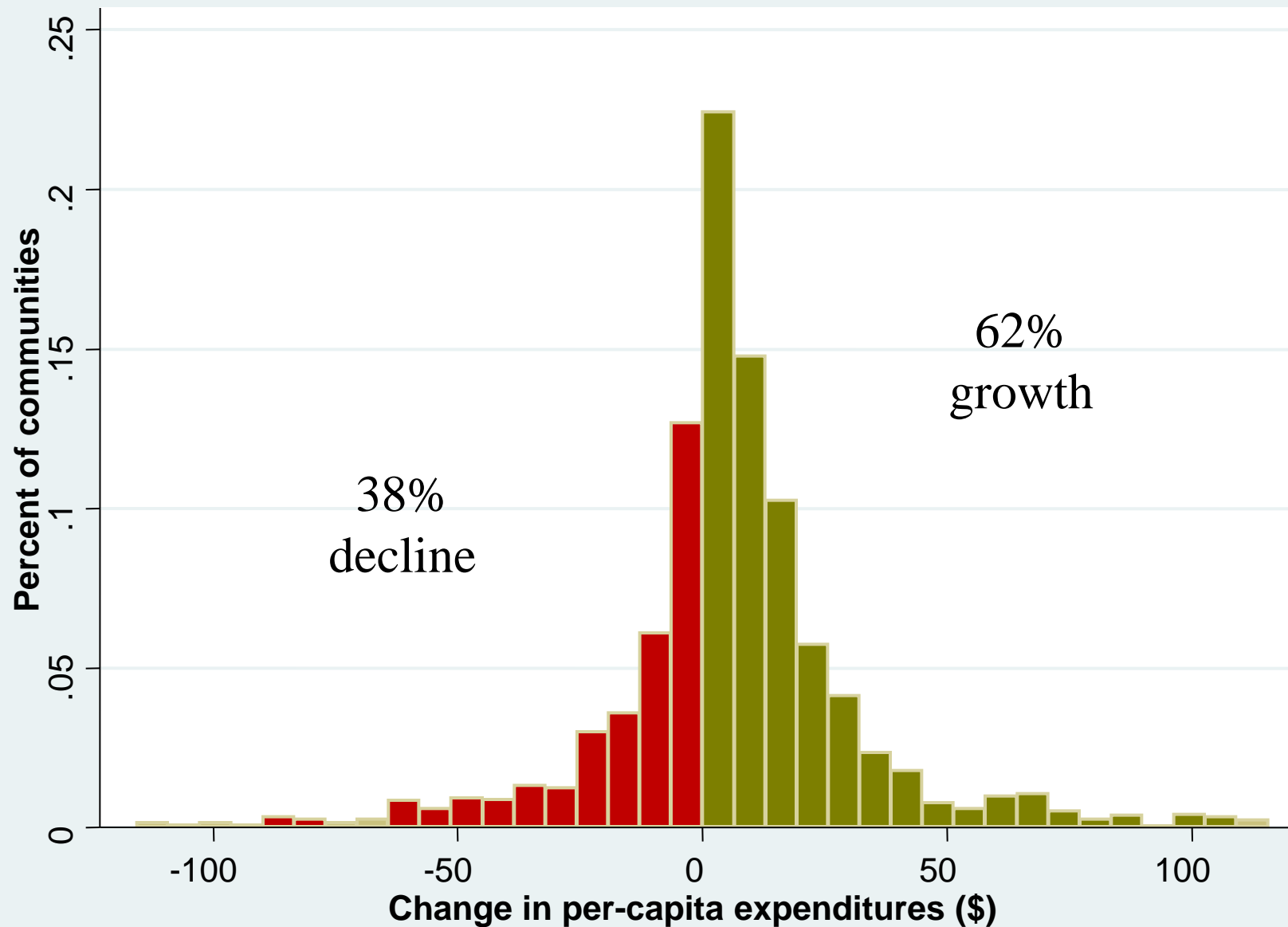


Fixed-effects models control for population size, density, age composition, poverty status, racial composition, and physician supply

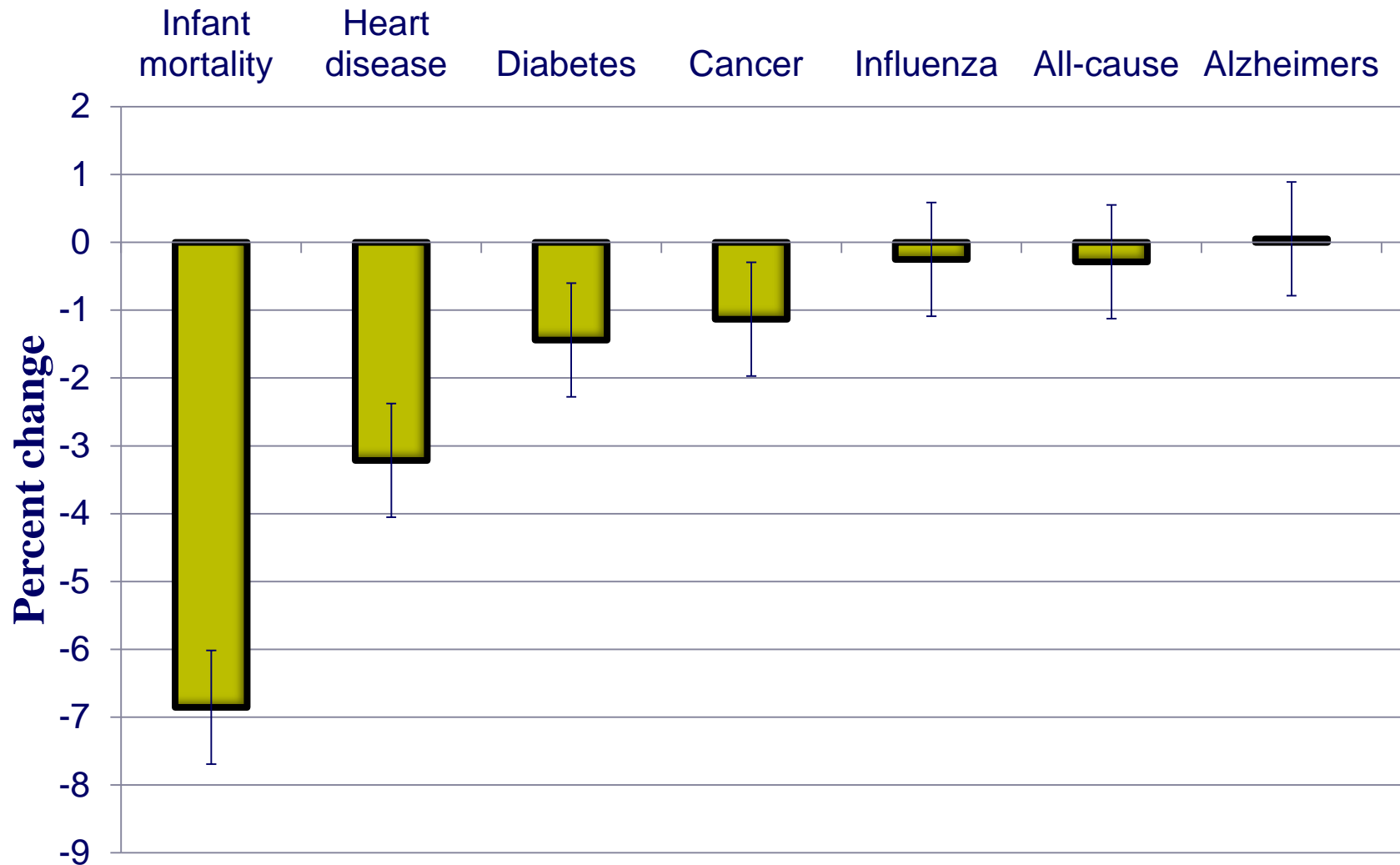
Inequities in local public health spending



Changes in Local Public Health Spending 1993-2010



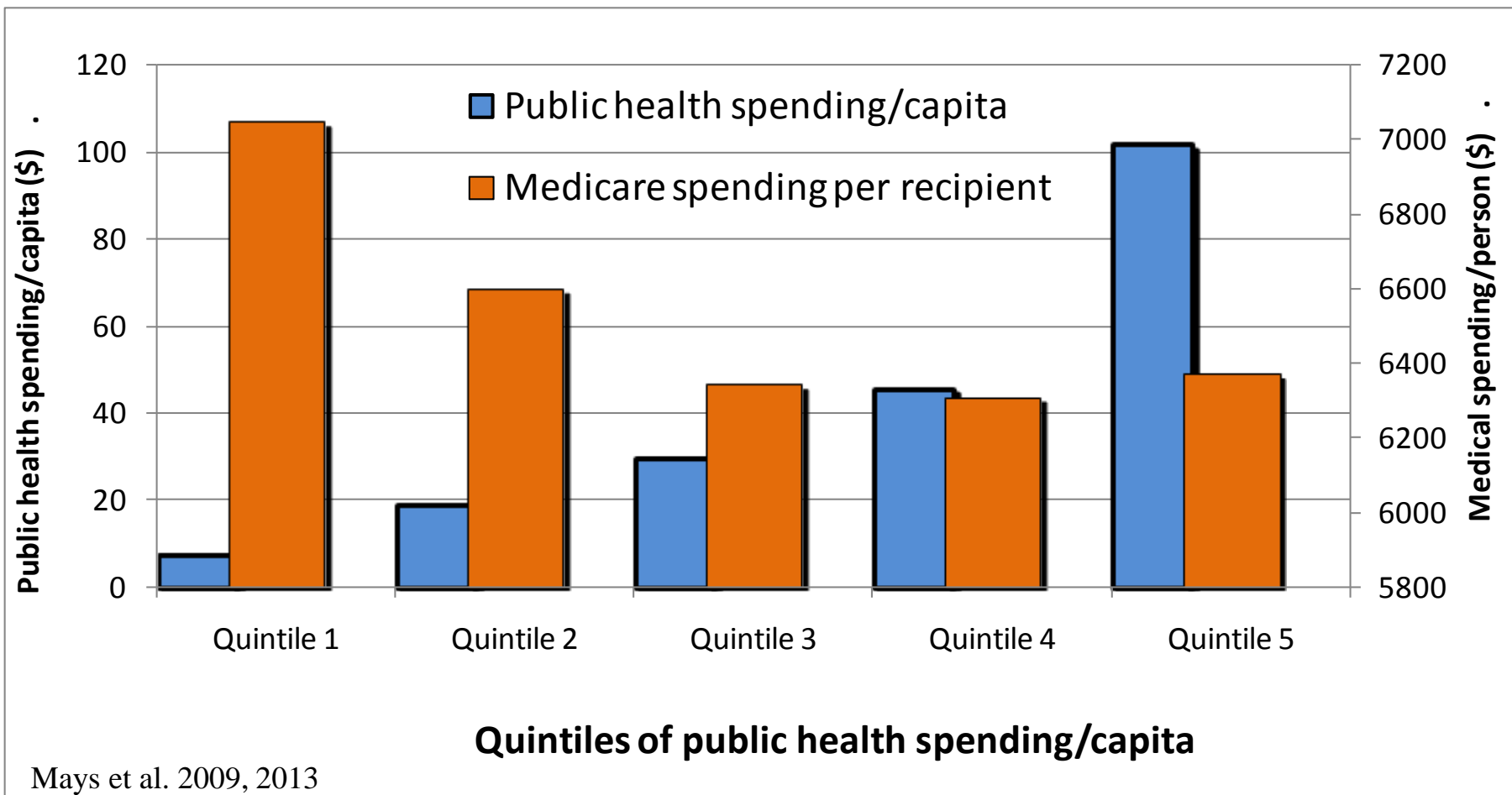
Mortality reductions attributable to local public health spending, 1993-2008



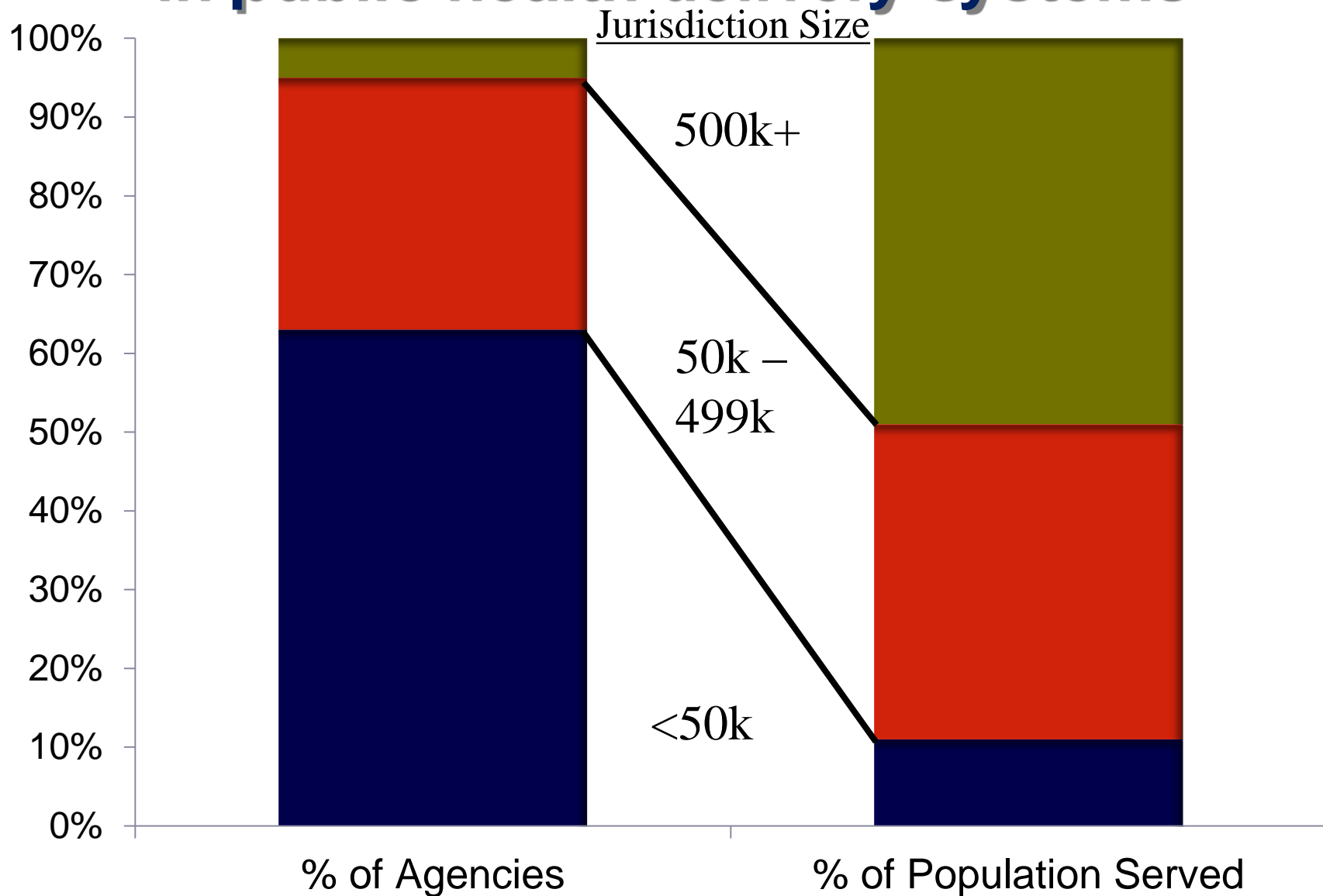
Hierarchical regression estimates with instrumental variables to correct for selection and unmeasured confounding

Medical cost offsets attributable to local public health spending, 1993-2008

For every \$10 of public health spending, ≈\$9 are recovered in lower medical care spending over 15 years



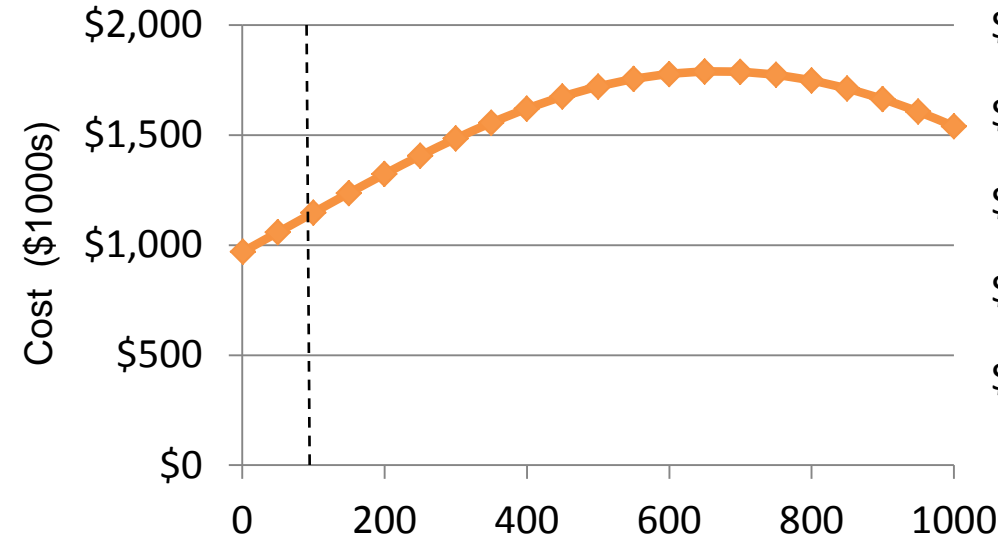
Economies of scale and scope in public health delivery systems



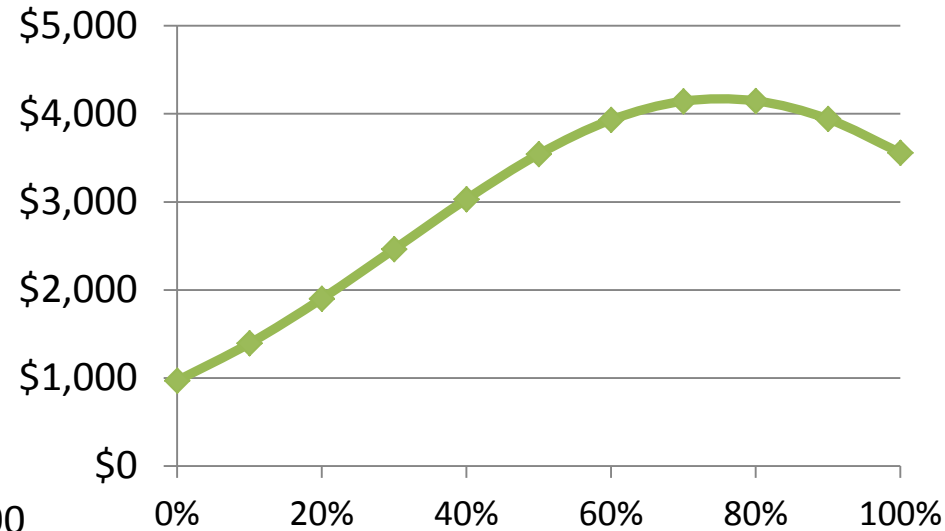
Source: 2010 NACCHO National Profile of Local Health Departments Survey

Economies of scale and scope in public health delivery

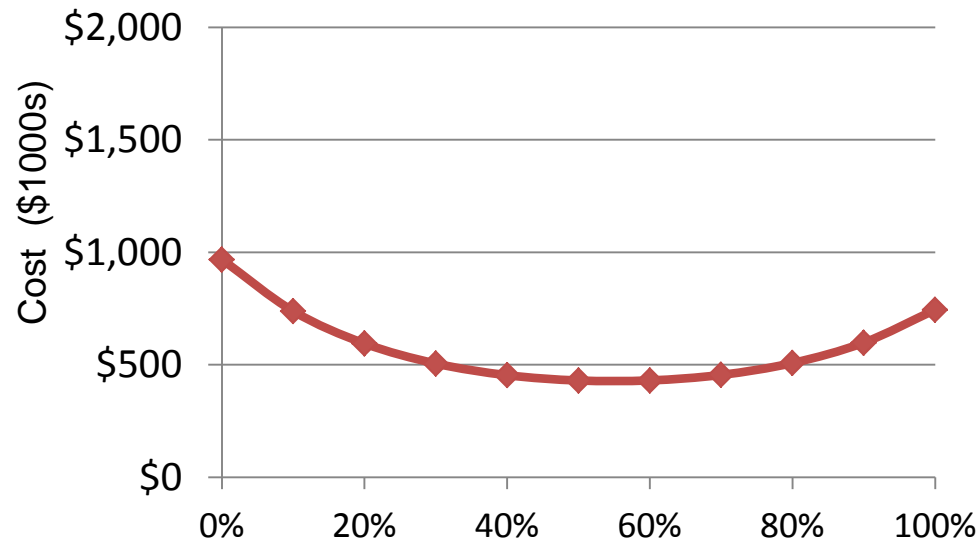
Scale (Population in 1000s)



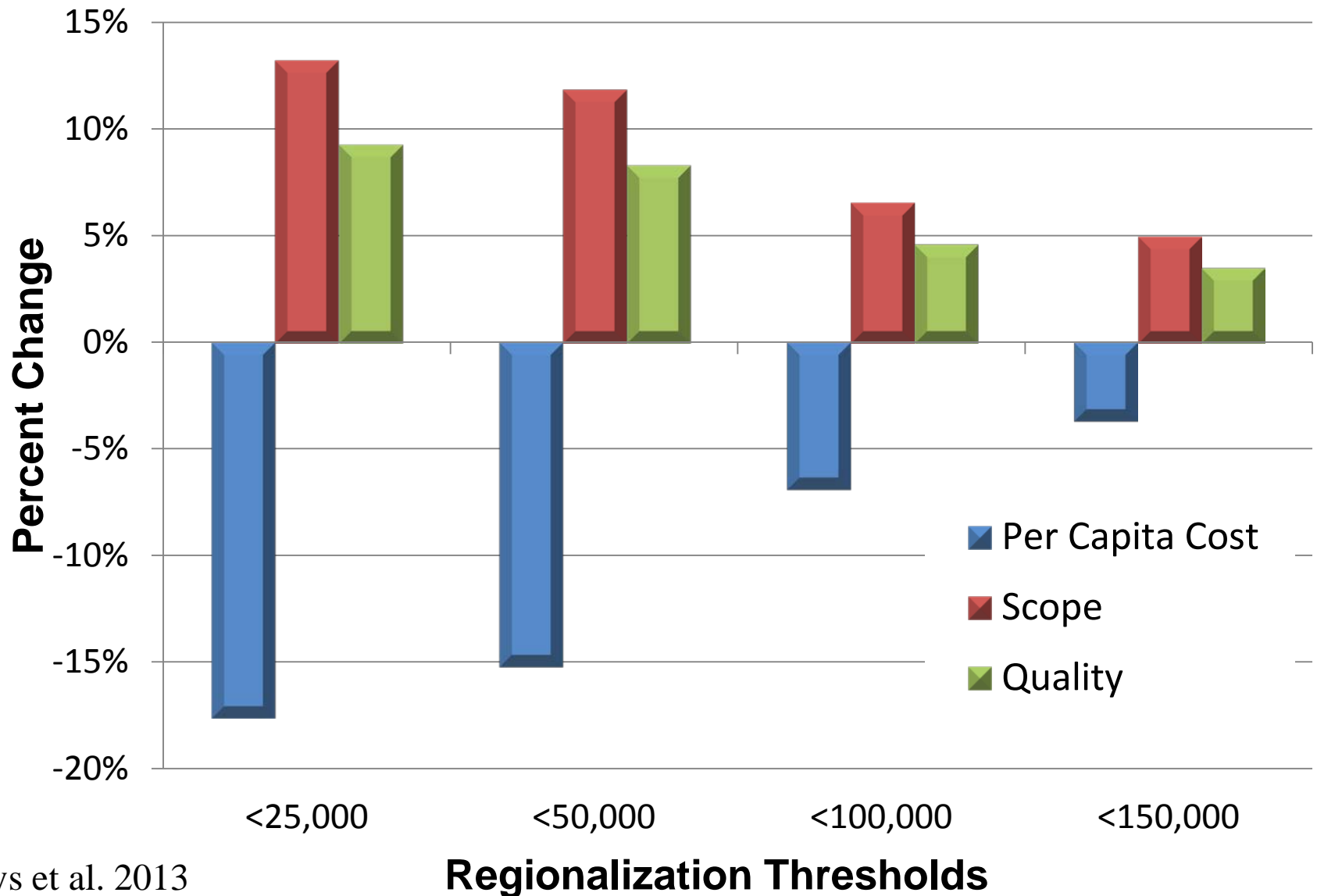
Scope (% of Activities)



Quality (Perceived Effectiveness)



Gains from regionalizing public health delivery



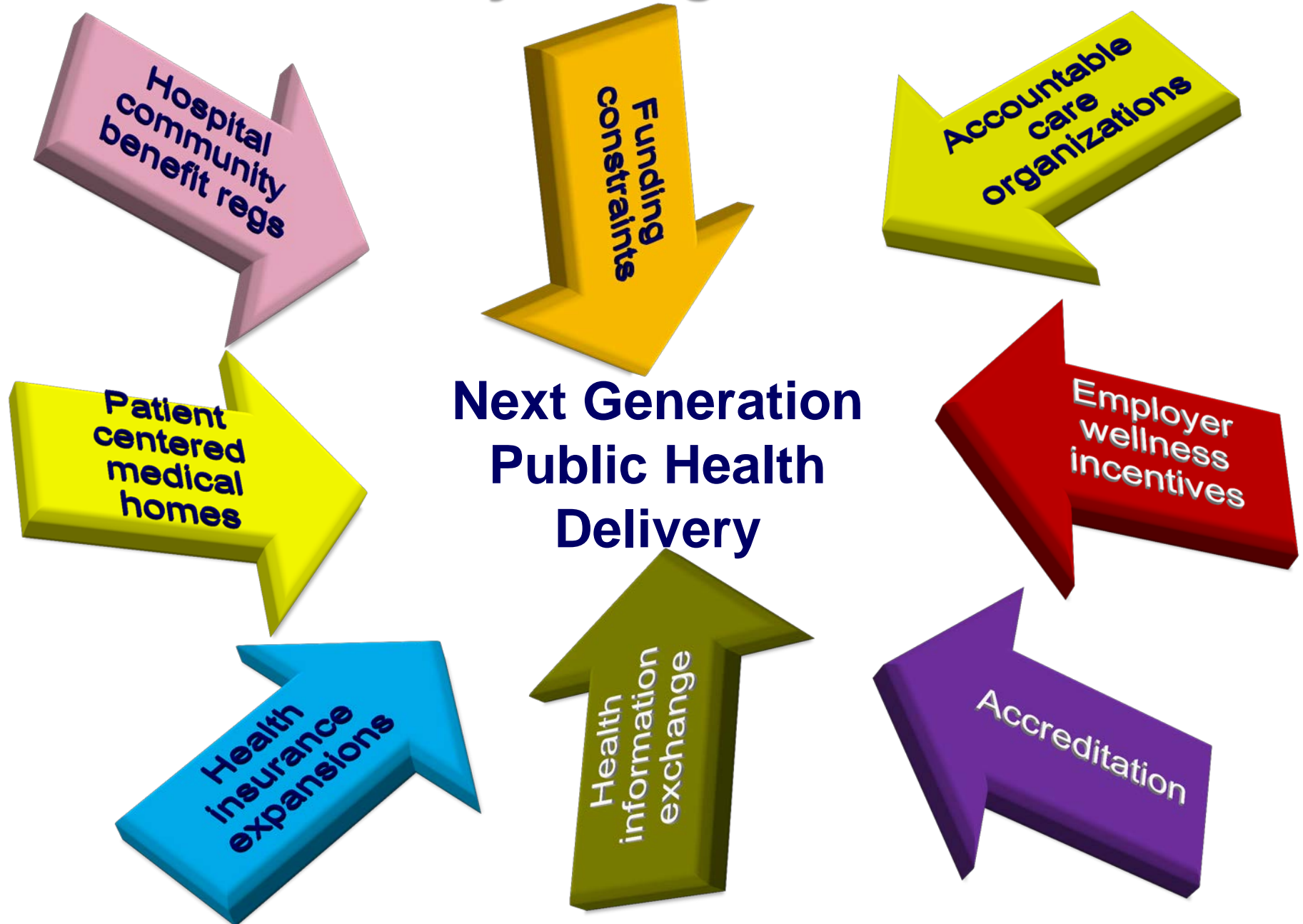
Next generation public health delivery

Public health agency as **chief health strategist**

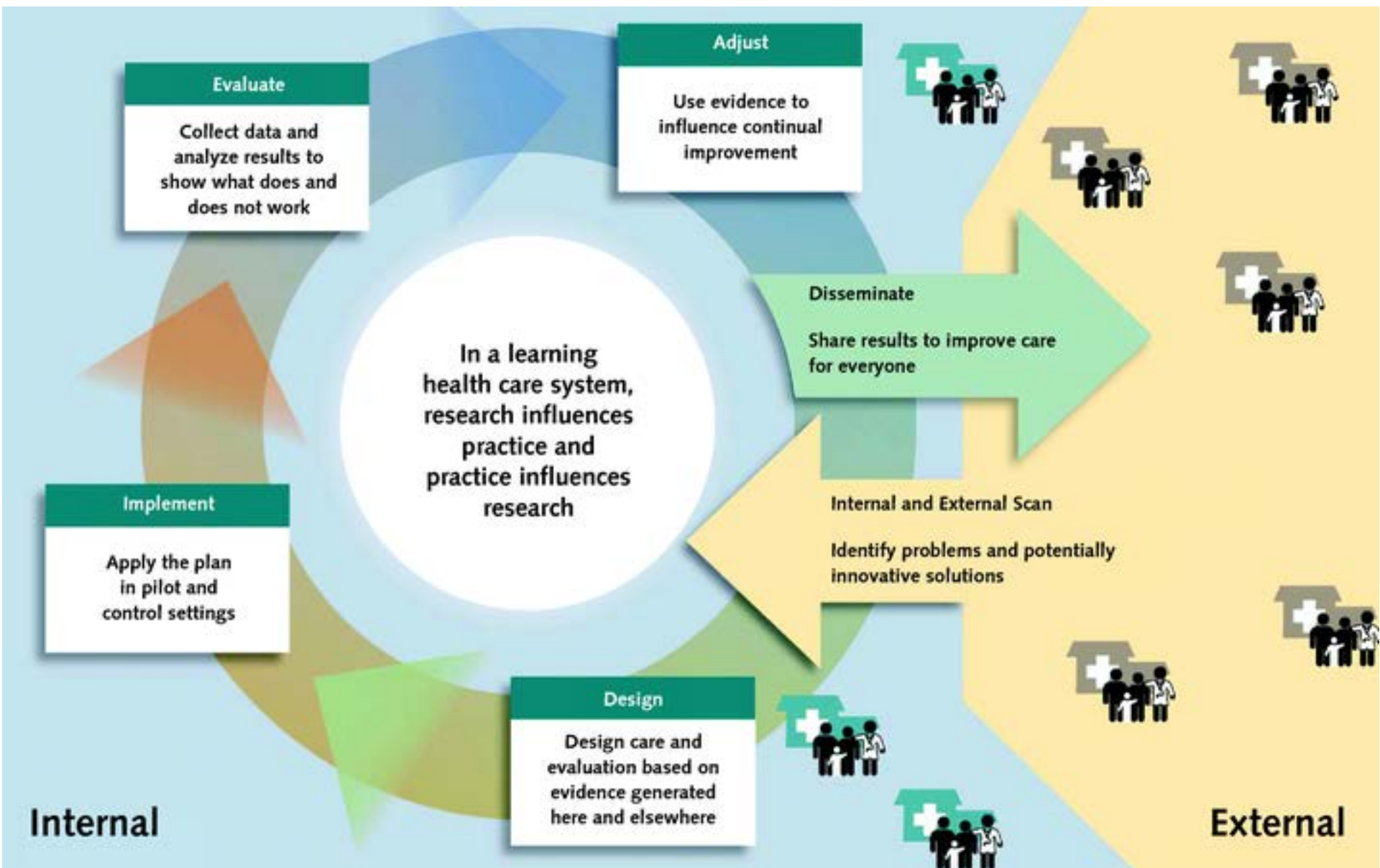
- Articulate population health needs & priorities
- Engage community stakeholders
- Plan with clear roles & responsibilities
- Recruit & leverage resources
- Develop and enforce policies
- Ensure coordination
- Promote evidence-based practices
- Monitor and feed back results
- Mobilize performance improvement
- Ensure transparency & accountability: resources, results, ROI



Why change now?

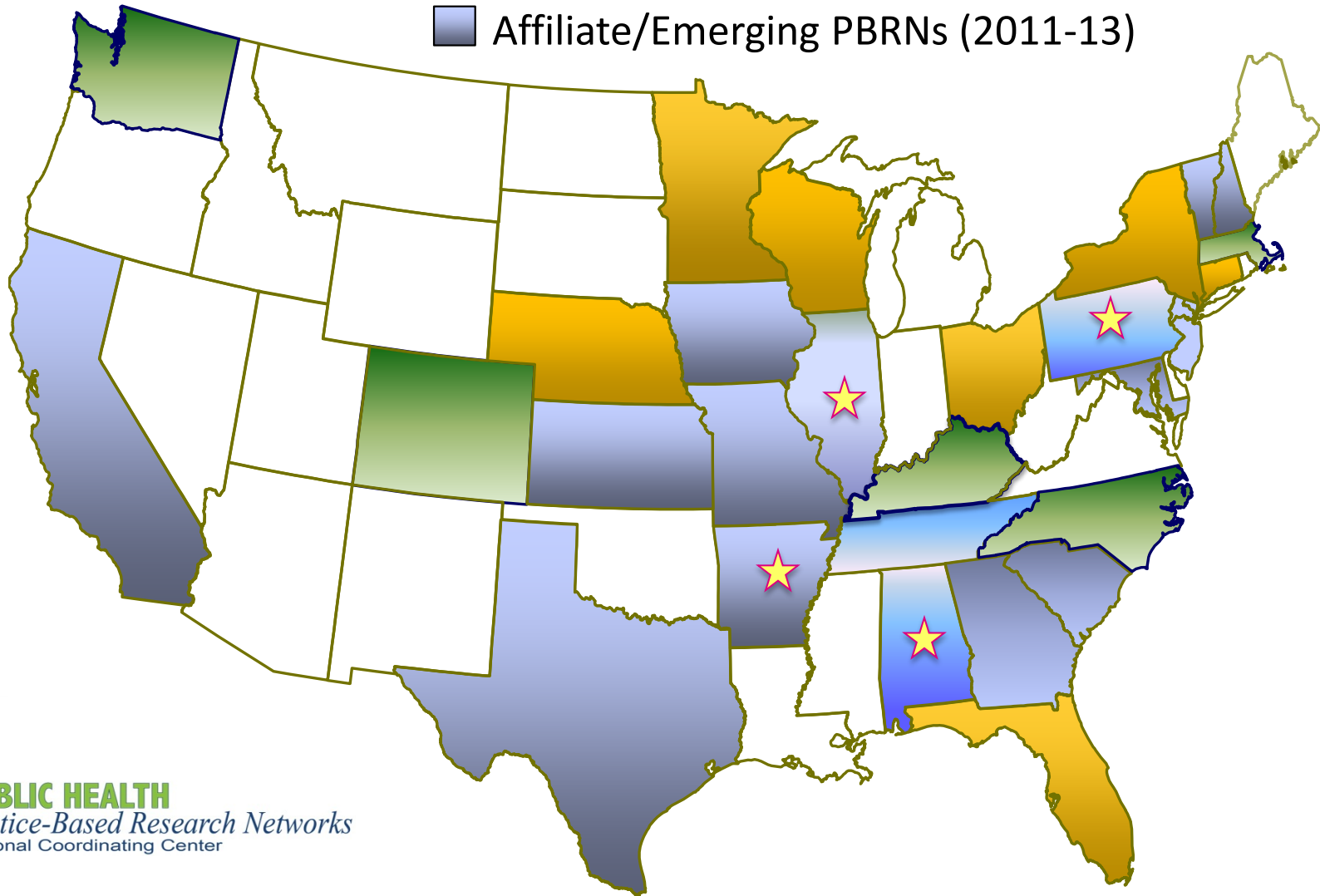


Toward a “rapid-learning system” in public health



Public Health Practice-Based Research Networks (PBRNs)

- First cohort (December 2008 start-up)
- Second cohort (January 2010 start-up)
- Affiliate/Emerging PBRNs (2011-13)



PBRNs and Delivery System Change

Local Health Departments Engaged in Research Implementation & Translation Activities During Past 12 months

	PBRN Agencies		National Sample		
<u>Activity</u>	<u>Percent/Mean</u>		<u>Percent/Mean</u>		
Identifying research topics	94.1%		27.5%		***
Planning/designing studies	81.6%		15.8%		***
Recruitment, data collection & analysis	79.6%		50.3%		**
Disseminating study results	84.5%		36.6%		**
Applying findings in own organization	87.4%		32.1%		**
Helping others apply findings	76.5%		18.0%		***
Research implementation composite	84.04	(27.38)	30.20	(31.38)	**
N	209		505		

The bottom line

- Business as usual is increasingly not an option
- Someone must assume responsibility for leading the public health **delivery system**
- A focus on **catalytic functions** can improve public health delivery
- Fundamentally, it's about **equity** in public health protection
- If not governmental public health, then who?

For More Information



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